

CIVIL AVIATION continues to be the largest single segment of the industry. Increasing orders and deliveries throughout the world led to sales growth of 8% to EUR 29.2 billion. More than 76,500 people are working in this segment.

The **MILITARY AVIATION** segment recorded an increase in sales of 4%. Sales rose to EUR 7.8 billion. The number of employees increased slightly to 24,000 employees.

In the **SPACE** segment, sales increased by 3% compared to the previous year to EUR 3 billion, and the number of employees increased by 3% to 9,000 employees.

The **SHARE OF EXPORTS** as a percentage of total industry sales rose from 72% to 74%.

The industry's expenditures on **RESEARCH AND DEVELOPMENT** remain at a very high level. They comprise a volume of EUR 4 billion, which corresponds to 10% of industry sales.

In view of growing competition from all over the world it is necessary to keep Germany competitive as an aerospace location and thus future-proof. We will only achieve this goal if all participants from industry, politics and research pull in the same direction.

The German Aerospace Industries Association (Bundesverband der Deutschen Luft- und Raumfahrtindustrie e.V. – BDLI), with about 240 members, represents the interests of an industrial sector which has become a significant driver of economic growth in Germany due to its international technological leadership and worldwide success. Combining almost all strategic key technologies, the German aerospace industry directly employs around 109,500 staff members at present and currently achieves annual sales of EUR 40 billion.

Communication with political institutions, authorities, associations and foreign representations in Germany is one of the major tasks of the BDLI, as is providing a variety of services in Germany and abroad for its members.

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The BDLI is officially accredited to the German Bundestag, where it performs a number of legally embodied tasks. The BDLI is a member of the European umbrella organization ASD, AeroSpace and Defence Industries Association of Europe, and of the Federation of German Industries (Bundesverband der Deutschen Industrie – BDI).

*for a competitive and
future-proof aerospace location*

German Aerospace Industries
Association (BDLI)
Phone: +49 (0)30 206140-0
contact@bdli.de
www.bdli.de

V.i.S.d.P.: Cornelia von Ammon
Layout: Katja Zehe

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Industry Figures of the German Aerospace Industry

2017 the aerospace industry in Germany can look back on very good development. The growth trend of recent years has been expanded further: sales growth for the industry as a whole amounted to 6%, with total sales reaching an all-time high of EUR 40 billion (previous year: EUR 37.5 billion). The total number of employees increased slightly to 109,500 workers directly employed in the aerospace industry (previous year: 108,000). This number marks a new high in the number of employees.

The German aerospace industry continued on its successful course. This applies equally to all industry segments. The large manufacturers and our efficient, highly specialized medium-sized businesses contributed to this result. This positive development is based on innovation, entrepreneurial foresight, targeted political support and the qualifications and commitment of the employees.

Germany and Europe are among the world leaders in the aerospace industry. It is a technology accelerator and a strategic factor for Germany as a technology hub: we invest heavily in research and development, because innovation is the key to success. Our industry is playing a pioneering role in future topics such as unmanned aircraft, electric aircraft, the aerospace industry 4.0 and the commercial use of space travel – with spill-over effects in other industries. For military aviation, the special challenges lie in the networking of different systems and the teaming of ‚manned/unmanned‘ systems.

10%
Research growth
that Germany will continue to be in the forefront in the future

CIVIL AVIATION:

The civil aviation sector also developed very well last year. An increasing global demand for mobility and the replacement of older aircraft using more kerosene with the latest low-noise, fuel-saving generation of aircraft continue to be the major drivers of growth. Compared to the previous year, sales rose by 8% to EUR 29.2 billion (previous year: EUR 27.1 billion). Civil aviation remains by far the largest sector of the national aerospace industry, with 76,500 employees, accounting for 73% of total industry sales.

The proactive and goal-oriented support and funding from the federal government still provides an irreplaceable boost for this positive development. The range of funding from the Federal Ministry for Economic Affairs and Energy (BMWi) makes an indispensable contribution to improving the competitiveness of our companies in the tough global market. And the spectrum goes far: From basic research funding at the German Aerospace Center (DLR) and the reliable aviation research program (LuFo) – both in the context of EU-funded aviation research funding – to the loan program for aircraft equipment manufacturers, market development trips and the foreign trade fair program. It is important that the „aerospace industry round table discussions, which the Ministry for Economic Affairs and Energy has initiated together with the players in the industry, also be continued with the new federal government, because this is where forward-looking topics such as unmanned aircraft, electric aircraft, the aerospace industry 4.0 and the commercial use of space travel and work 4.0 are proactively addressed. We need this targeted support to ensure that many ‚made in Germany‘ innovations can continue to be translated into cutting-edge technology products and thus into market success in the future.

Development work on key civil aircraft programs has largely been completed. Our industry continues to invest heavily – twice as much as other industries – in new technologies and products, with a view to developing the next generation of aircraft as well as product refinement for ongoing programs.

Another important area is the introduction of industry 4.0 technologies, unmanned aircraft and hybrid / electric aircraft, in particular using the latest digital technology. These investments in key technologies will continue to form the basis of our industry's global market success in the future.

The „Technology Strategy of the German Aerospace Industry“, published today by the BDLI, shows concretely how the aviation industry will increase its competitiveness while at the same time achieving its social goals.

Last year, some 1,800 passenger aircraft were delivered worldwide. One in six of these aircraft – i.e., a total of 300 – was assembled in Hamburg, Germany, and then delivered to customers all over the world. This corresponds to 17% of global aircraft production. These figures impressively demonstrate the global strength of the German aviation industry as a whole.

The record order backlog of all aircraft manufacturers forms the basis for further production ramp-up. This was also the main driver of sales growth in 2017. The order backlog at Airbus corresponds to about nine years of production based on current production rates and secures jobs in the long term. Our engine manufacturers and medium-sized suppliers also benefit from this. This order backlog is a unique selling proposition in our industry.

74%
Export share
top technology "Made in Germany"

40 bn. Euro
Sales
for the aerospace cluster Germany

The German engine industry benefited from the sustained positive industry environment in 2017. The medium- to long-term production plans for new engines are known and have been agreed with the aircraft manufacturers, while data on the fleet in service provide planning security for the after-sales business. Engine manufacturers are focusing on the ramp-up of new engine models such as the geared turbofan and the Trent XWB. Engine manufacturers also continue to invest heavily in the constant optimization of existing engines and in the development of new engine designs, with the aim of further reducing fuel consumption and emissions. This is the only way the industry can meet the increasing demands for mobility in the face of the industry's voluntary commitment to limit emissions.

Digitization is becoming ever more important in all areas – from development and production to maintenance. It is used, for example, in extensive simulations in development work right through to virtual engines.

In 2017, Airbus Helicopters further strengthened its leading position in the civil and parastatal markets worldwide with a market share of 50%. The helicopter segment has weathered the downturn on the world market well. With the CityAirbus, an autonomously flying, vertical take-off and landing electric aircraft for passenger transport in urban air traffic, Airbus Helicopters is opening up new markets.

THE CIVIL SUPPLY INDUSTRY:

The German supply industry is participating in the ramp-up of the civil aircraft programs. Our medium-sized industry continues to acquire strengths as a leading industrial region in Europe as aircraft manufacturers. All the commercial aircraft delivered worldwide contain components ‚made in Germany‘ – an outstanding success story.

Our companies, located in Germany – a high-wage country – are achieving this success despite tough global competition, and are proving themselves due to their strong market position with respect to technology, quality and reliability. The Supply Chain Excellence (SCE) initiative, sponsored by the Federal Ministry for Economic Affairs and Energy (BMWi) together with the BDLI, and our regional associations are contributing significantly to the strategic positioning of our suppliers. Internationalization, corporate cooperation, improved access to financing and increased operational efficiency also through new (digital) technologies are the keywords here!

MILITARY AVIATION:

Sales in the military aviation industry rose by 4% to EUR 7.8 billion (previous year: EUR 7.5 billion) and accounted for 19% of total industry sales. The number of employees increased to 24,000.

After the past few years, which were characterized by a decline in sales and employment in this strategically important industry segment, the turnaround observed last year is borne out. This is a consequence of the changing security situation worldwide, which could not be more complex and multifaceted. In addition to asymmetric threats, new challenges have been added such as the defense of alliance and national interests, not least in the cyber and information space. This increasingly requires a commitment by Germany and above all Europe. It also means that the Federal Republic of Germany must once again invest significantly more in defense.

The development and procurement of the Future Combat Air System (FCAS) as a European

joint project will prove to be essential. The FCAS makes a lasting contribution to maintaining and expanding industrial competence in Germany. It will form an important, integral part of defense sovereignty in Germany and Europe. It also requires a systematic continuation of the work on the development project of a European drone, together with France, Italy and Spain.

We welcome the intention of the Ministry of Defense to increasingly and multilaterally work together with our European partners, especially France, in future major projects: This is the only way for Europe to live up to its growing responsibility in the international community. The close cooperation with France on the FCAS and EuroMALE but also, for example, on the maritime patrol aircraft

(MPA) of the future is an expression of this intention to assume political responsibility. At the same time, these projects also ensure the preservation of highly qualified jobs in Germany and also contribute to strengthening the autonomy of European defense.

With an export share of 74% and a high degree of international networking, our industry is strongly affected by export policy. The military aviation industry is naturally committed to the export principles of the German government. However, the discussion on export restrictions must always be conducted in a security policy context and a European context. Special national policies within the framework of arms export control are counterproductive and entail the risk of the German industry losing its ability to cooperate

– which applies equally to the systems and equipment industry. The current export policy not only restricts our export capacity, it also jeopardizes our opportunities for cross-border integrated programs, even with European companies. To counteract this is an expression of assuming political responsibility.

4 bn. Euro
Research spending
because innovation does not tolerate any delay

109,500
Employees
we secure jobs and prosperity

SPACE INDUSTRY:

The highly innovative key technology sector that is the space industry looks back on another successful financial year in 2017. Sales increased to EUR 3 billion (previous year: EUR 2.9 billion), which represents 8% of total industry sales. The number of employees rose to 9,000 (previous year: 8,900).

With the passage in the coalition agreement stating that the space industry is a pioneer in the development and testing of new technologies and acts as a driving force for innovation in other sectors of the economy through technology transfer, the German government has hit the mark: without the achievements of the space industry, we would not be where we are today. Investing in the space industry means investing in the future. This is where key technologies are being developed and applied for the first time. Many challenges of modern society such as climate protection, security, traffic control and digital infrastructure can only be solved with innovations from the space industry.

At the end of 2017, the satellite fleet of the European satellite navigation system GALILEO grew to a total of 22 satellites with the launch of four additional satellites manufactured in Germany. The system is already in use and is planned to be fully operational in 2020.

With the launch vehicle ARIANE 6, which is currently under development, Europe continues to secure its independent access to space – with important German components. The reignitable Vinci upper-stage engine – made in Germany – provides enormous versatility.

The transformation to a digital society is perhaps the biggest social revolution since the era of industrialization. In its 5G strategy, the federal government formulates the strategy that Germany should become the lead market for 5G applications in order to play a leading role in the worldwide development of 5G. It is important to ensure that the space industry becomes part of Germany's digitizing strategy and thus also gains a lot of international visibility. Due to its excellent area coverage, satellite communication can make a key contribution to the optimal and secure availability of broadband coverage, not least in rural or terrestrial areas that are poorly developed.

A dynamic Earth observation program has given Europe a leading role in researching environmental problems, managing natural resources and tackling global societal challenges. New versions of the weather satellites Meteosat and MetOp are currently being developed with EUMETSAT, while the European Space Agency ESA is launching the various Sentinel missions

into space for the EU-led Copernicus program. Important German industrial partners support the development of ground systems and the operation of the Copernicus satellites.

The International Space Station ISS is the world's largest international science project to date. An outpost of humanity in space, at the same time it is a flying laboratory offering excellent possibilities for science and industrial research. With Matthias Maurer and Alexander Gerst, who will soon be the first German commander of the ISS, ESA will have two active German astronauts.

In order to ensure that Germany continues its successful development as a location for spaceflight, BDLI relies on the continuation of the strategic dialogue on the long-term direction of German space policy. We must continue to jointly tackle the challenges posed by the changing space landscape worldwide. The main task will be to strategically position our national space industry to keep it competitive. A corresponding national space budget and national space legislation that supports the German space industry play a decisive role in this.

